(August 7, 2006)

Traffic Signal Standards

Traffic signal standards shall be furnished and installed in accordance with the methods and materials noted in the applicable Standard Plans, pre-approved plans, or special design plans.

All welds shall comply with the latest AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. Welding inspection shall comply with Section 6-03.3(25)A Welding Inspection.

Hardened washers shall be used with all signal arm connecting bolts instead of lockwashers. All signal arm AASHTO M 164 connecting bolts shall be tightened to 40 percent of proof load.

Traffic signal standard types and applicable characteristics are as follows:

Type PPB Pedestrian push button posts shall conform to Standard Plan J-7a or to one of the following pre-approved plans:

Fabricator	Drawing No.
Northwest Signal Supply Inc.	NWS 3530 or NWS 3530B
Valmont Ind. Inc.	DB00655 Rev. B
Ameron Pole Prod. Div.	M3723 Rev. E
Union Metal Corp.	10035 Rev. 3
West Coast Engineering Group	WSDOT-PP-01 Rev. 0

Type PS Pedestrian signal standards shall conform to Standard Plan J-7a or to one of the following pre-approved plans:

Fabricator	Drawing No.
Northwest Signal Supply Inc.	NWS 3530 or NWS 3530B
Valmont Ind. Inc.	DB00655 Rev. B
Ameron Pole Prod. Div.	M3723 Rev. E or W3539 Rev. A
Union Metal Corp.	TA-10025-A, Rev. 13
West Coast Engineering Group	WSDOT-PP-02 Rev. 0

Type I Type I vehicle signal standards shall conform to Standard Plan J-7a or to one of the following pre-approved plans:

	Fabricator	Drawing No.
	Northwest Signal Supply Inc.	NWS 3530 or NWS 3530B
	Valmont Ind. Inc.	DB00655 Rev. B
	Ameron Pole Prod. Div.	M3723 Rev. E or W3539 Rev. A
	Union Metal Corp.	TA-10025 Rev. 11
	West Coast Engineering Group	WSDOT-PP-02 Rev. 0

Type FB Type FB flashing beacon standard shall conform to Standard Plan J-7a or the following pre-approved plan:

Fabricator	Drawing No.
Valmont Ind. Inc.	DB00655 Rev. B
Union Metal Corp.	50200-B58 Rev. 3
Ameron Pole Prod. Div.	W3539 Rev. A
Northwest Signal Supply Inc.	NWS 3535 or NWS 3535B

Type RM Type RM ramp meter standard shall conform to Standard Plan J-7a or the following pre-approved plan:

Fabricator	Drawing No.
Valmont Ind. Inc.	DB00655 Rev. B
Union Metal Corp.	50200-B58 Rev. 3
Ameron Pole Prod. Div.	W3539
Northwest Signal Supply Inc.	NWS 3535 or NWS 3535B

Type CCTV

Fabricator	Drawing No.
Valmont Industries, Inc.	DB 00759 Rev. C

Type II Characteristics:

Luminaire mounting height	N.A.
Luminaire arms	N.A.
Luminaire arm length	N.A.
Signal arms	One Only

Type II standards shall conform to one of the following pre-approved plans, provided all other requirements noted herein have been satisfied. Maximum (x) (y) (z) signal arm loadings in cubic feet are noted after fabricator.

Signal Arm Length (max)	Fabricator-(x) (y) (z)	Drawing No.
60 ft.	Valmont Ind. Inc.-(2894)	DB00625-Rev. E, Shts. 1, 2 & 3
65 ft.	Union Metal Corp. (2900)	71026-B86 Rev. 4 Shts. 1, 2 & 3
65 ft.	Ameron Pole-(2900)	W3724-1 Rev. E & W3724-2 Rev. D
65 ft.	Northwest Signal-(2802) Supply Inc.	NWS 3505 Rev. 10/14/03 or NWS 3505B Rev. 10/14/03
45 ft.	American Pole (1875) Structures, Inc.	WS-T2-L Rev. 1
65 ft.	American Pole (2913) Structures, Inc.	WS-T2-H Rev. 1

Type III Characteristics:

Luminaire mounting height	30 ft., 35 ft., 40 ft., or 50 ft.
Luminaire arms	One Only
Luminaire arm type	Type 2
Luminaire arm length (max.)	16 ft.
Signal arms	One Only

Type III standards shall conform to one of the following pre-approved plans, provided all other requirements noted herein have been satisfied. Maximum (x) (y) (z) signal arm loadings in cubic feet are noted after fabricator.

Signal Arm Length (max)	Fabricator-(x) (y) (z)	Drawing No.
65 ft.	Valmont Ind. Inc.-(2947)	DB00625-Rev. E, Shts. 1, 2 & 3 and "T" luminaire arm
65 ft.	Northwest Signal-(2802) Supply Inc.	NWS 3505 Rev. 10/14/03 or NWS 3505B Rev. 10/14/03

65 ft.	Ameron Pole-(2900) Prod. Div.	W3724-1 Rev. E & W3724-2 Rev. D and "T" luminaire arm

Type IV — Type IV strain pole standards shall be consistent with details in the Plans and Standard Plan J-7c or one of the following pre-approved plans:

Fabricator	Drawing No.
Northwest Signal Supply Inc.	NWS 3525 or NWS 3525B
Valmont Ind. Inc.	5000-4
Ameron Pole Prod. Div.	M3650 Rev. A
Union Metal Corp.	EA-10224, Rev. 8
American Pole Structures, Inc.	9000-12-037 Rev. A
West Coast Engineering Group	WSDOT-TS-01 Rev. 0 Sheets 1, 2, and 3

Type V — Type V combination strain pole and lighting standards shall be consistent with details in the Plans and Standard Plan J-7c or one of the following pre-approved plans:

Fabricator	Drawing No.
Ameron Pole Prod. Div.	M3650 Rev. A
Northwest Signal Supply Inc.	NWS 3525 or NWS 3525B
American Pole Structures, Inc.	9020-12-007 Rev. B
West Coast Engineering Group	WSDOT-TS-01 Rev. 0 Sheets 1, 2, and 3

The luminaire arm shall be Type 2, 16 foot maximum and the luminaire mounting height shall be 40 feet or 50 feet as noted in the Plans.

Type SD — Type SD standards require special design. All special design shall be based on the latest AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and pre-approved plans and as follows:

1. A 90 mph wind loading shall be used.

2. The Design Life and Recurrence Interval shall be 50 years for luminaire support structures exceeding 50 feet in height, and 25 years for all other luminaire support structures.

3. Fatigue design shall conform to AASHTO Section 11, Table 11-1 using fatigue category III.

Complete calculations for structural design, including anchor bolt details, shall be prepared by a Professional Engineer, licensed under Title 18 RCW, State of Washington, in the branch of Civil or Structural Engineering or by an individual holding valid registration in another state as a civil or structural Engineer.

All shop drawings and the cover page of all calculation submittals shall carry the Professional Engineer's original signature, date of signature, original seal, registration number, and date of expiration. The cover page shall include the contract number, contract title, and sequential index to calculation page numbers. Two copies of the associated design calculations shall be submitted for approval along with shop drawings.

Details for handholes and luminaire arm connections are available from the Bridges and Structures Office.

Foundations for various types of standards shall be as follows:

Type PPB	As noted on Standard Plan J-7a.
Type PS	As noted on Standard Plan J-7a.
Type I	As noted on Standard Plan J-7a.
Type FB	As noted on Standard Plan J-7a.
Type RM	As noted on Standard Plan J-7a.
Type CCTV	As noted in the Plans.
Type II	As noted in the Plans.
Type III	As noted in the Plans.
Type IV	As noted in the Plans and Standard Plan J-7c.
Type V	As noted in the Plans and Standard Plan J-7c.
Type SD	As noted in the Plans.